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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,522	04/08/2004	Joseph L. Arvin	10224-2-2	8343

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Jerry A. Schulman  
Terrace Executive Center, Court C  
One South  
376 Summit Avenue  
Oakbrook Terrace, IL 60181

EXAMINER

CABRERA, ZOILA E

ART UNIT PAPER NUMBER

2125

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/820,522

Applicant(s)

ARVIN, JOSEPH L.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 7-18 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>8/18/06</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/23/06</u> . | 6) <input type="checkbox"/> Other: _____.   |

**DETAILED ACTION**

***Final Rejection***

1. Claims 1-18 are presented for consideration.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pennisi et al. (US 5,659,478)** in view of **Geller et al. (US 5,091,861)**.

Regarding claims 1-6, Pennisi discloses,

1. A method for carrying out a machining operation upon a workpiece using a machining tool controlled by a computer, said computer controlling said machining tool with a control program (Figs. 1-2), said method comprising the steps of: creating an inspection data file for said workpiece (Fig. 2, elements 210, 212, 215, 220, 222, 223; Col. 6, lines 52-59); using said data file to create a model of said workpiece with said control program (Fig. 2, CAD model); selecting data points in said model to identify the surfaces of said workpiece to be machined (Fig. 1, element 41); and machining said identified surfaces with said machining tool by controlling said machining tool with said control program (Fig. 1, element 30).
2. The method of claim 1 wherein a succession of said machining operations are carried

out upon said workpiece (Fig. 2, element 230).

3. The method of claim 1 wherein said machining operation **is selected from the group of** chamfering deburring, honing, reaming, grinding, polishing, buffing and drilling (Col. 1, line 55).

4. A method for manufacturing a workpiece from a blank, said method comprising the steps of: using a first computer program to create a first data set that identifies the contours of the workpiece (Fig. 2, elements 210, 212); using said first data set to set the operating parameters of a workpiece-shaping device (Fig. 2, elements 225, 230); cutting a prototype workpiece from said blank with said workpiece-shaping device (Col. 7, lines 18-19 and 46-47; Col. 1, line 55); using a second computer program to generate a second data set for the purpose of measuring and inspecting said prototype workpiece (Col. 5, lines 3-6); measuring and inspecting said prototype workpiece using a device operated by said second computer program (Col. 6, lines 52-57; Col. 3, lines 44-50); using a third computer program to create a digital model of the contours of said workpiece (Fig. 2, CAD model); and using said third computer program and said model to operate a computer-controlled machining device to perform selected machining operations on selected of said contours (Fig. 2, element 230).

Regarding claims 5-6, the same citations applied to claims 2-3 above apply as well for these claims.

However, **Pennisi** fails to disclose that the machining operation is a finishing operation on an already manufactured workpiece and finishing identified surfaces of a workpiece. But **Geller** discloses an automatic computerized finishing system for machined workpieces, which performs, in particular, deburring tasks (Col. 1, lines 1-58). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Pennisi** with the system for automatic finishing of machined parts of **Geller** because it would provide an improved automatic computerized finishing system of already manufactured parts.

***Allowable Subject Matter***

4. Claims 7-18 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The allowability of the claims resides, at least in part, that the closest prior art of record (**Pennisi et al. US 5,659,478**) does not disclose or suggest, alone or in combination, the steps of:

Regarding independent claim 7, **said third computer program adapted to operate said indexable chuck and a robotic work arm; mounting a first selected machining tool on said robotic work arm; using said third computer program to operate said work arm to bring said first machining tool into contact with a first selected portion of said gear contours; conducting a first machining operation upon said first gear contour portion; operating said indexable chuck to bring a second selected portion of said gear contour into position to be machined; using**

**said third computer program to operate said work arm to bring said first machining tool into contact with said second selected portion of said gear contours; conducting said first machining operation upon said second gear contour portion; and continuing to reindex and machine said gear until all contours desired to be machined have been machined, in combination with the other elements and features of the claimed invention.**

**As for independent claim 11, repeating said prototype manufacture and inspection steps until a final of said prototype gears meets desired gear specifications; using a third computer program to generate a computer model of the contours of said final prototype gear, said third computer program adapted to operate an indexable chuck and a robotic work arm; using said gear-cutting machine parameters to cut a production gear; mounting said production gear to said rotatable, indexable chuck; mounting a selected machining tool on said robotic work arm; using said third computer program to operate said robotic work arm to bring said machining tool into contact with a first selected portion of the contours of said production gear; carrying out a first machining operation upon said first production gear contour portion; operating said indexable chuck to bring a second selected portion of said production gear contour into position to be machined; using said third computer program to operate said work arm to bring said machining tool into contact with said second selected portion of said production gear contours; carrying out said first machining operation upon said second selected production gear contour portion; and continuing to reindex and**

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**machine said production gear until all contours desired to be machined have been machined**, in combination with the other elements and features of the claimed invention.

As for independent claim 14, **second computer program to transform said measurements into a second data set; a robotically-controlled machining arm, said arm adapted to receive and operate a multiplicity of machining tools responsive to a third computer program; an indexable chuck adapted to hold said workpiece and rotate said workpiece to bring said workpiece into a selected position; a third computer program to control the movements of said arm and said chuck, said third computer program adapted to use said second data set to control said chuck and said arm whereby a selected of said tools is brought into contact with a first selected portion of said contours to carry out a machining operation upon said contour and said chuck is operated to bring successive portions of said contours into position to be machined until all contours desired to be machined have been machined**, in combination with the other elements and features of the claimed invention.

### ***Conclusion***

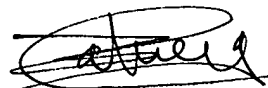
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (571) 272-3738. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. Additionally, the fax phones for Art Unit 2125 are (571) 273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.



Zoila Cabrera  
Patent Examiner  
8/18/06